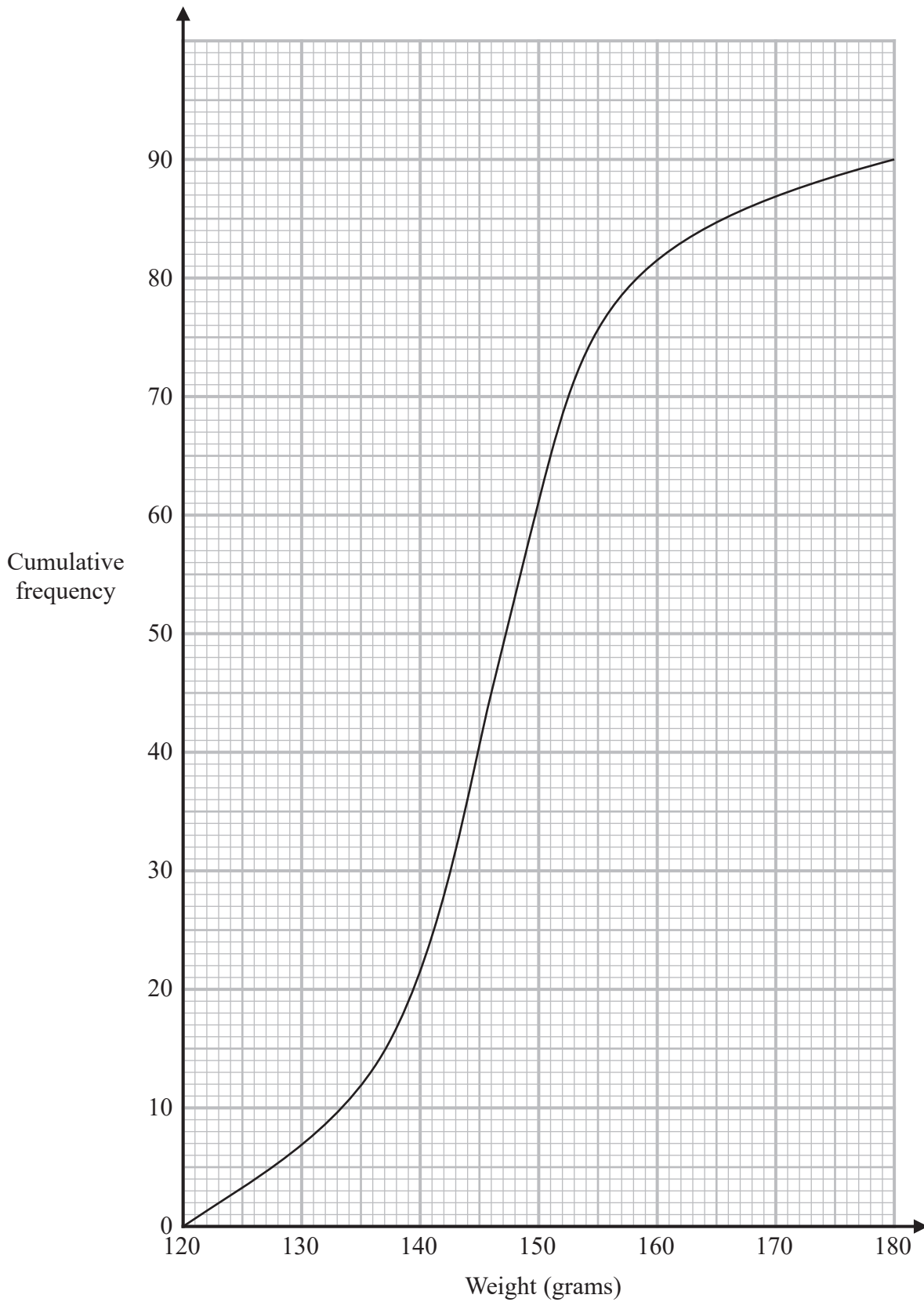


11 The cumulative frequency graph gives information about the weights, in grams, of 90 bags of sweets.



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(a) Find an estimate for the median of the weights of these bags of sweets.

..... grams
(2)

Roberto sells the bags of sweets to raise money for charity.
Bags with a weight greater than d grams are labelled large bags and sold for 3.75 euros each bag.

The total amount of money he receives by selling all the large bags is 93.75 euros.

(b) Find the value of d .

$d =$
(3)

(Total for Question 11 is 5 marks)



12 (a) Express $\frac{4}{x-2} - \frac{3}{x+1}$ as a single fraction.

Give your answer in its simplest form.

.....
(3)

(b) Expand and simplify $2x(x-5)(x-3)$

.....
(3)

(Total for Question 12 is 6 marks)

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13 Point A has coordinates $(5, 8)$
Point B has coordinates $(9, -4)$

(a) Work out the gradient of AB .

.....
(2)

The straight line L has equation $y = -4x + 5$

(b) Write down the gradient of a straight line that is perpendicular to L .

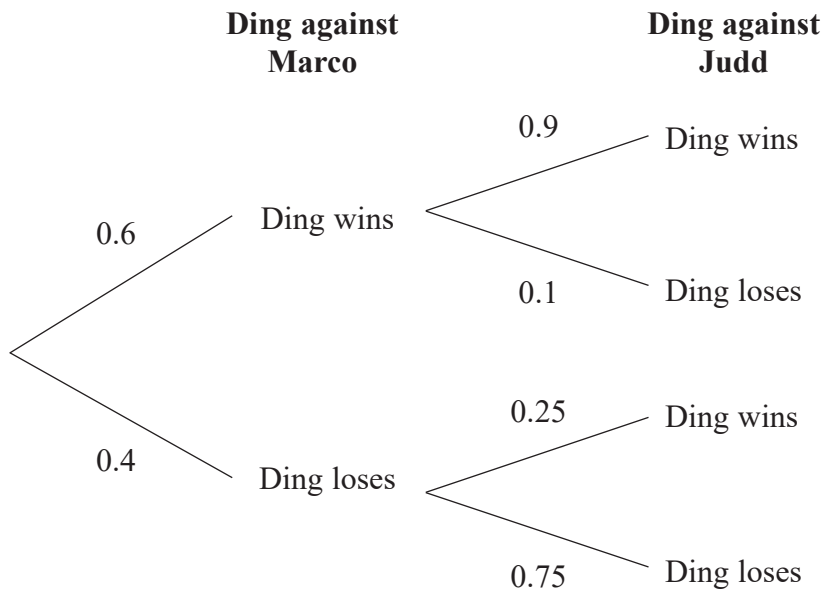
.....
(1)

(Total for Question 13 is 3 marks)



14 Ding is going to play one game of snooker against each of two of his friends, Marco and Judd.

The probability tree diagram gives information about the probabilities that Ding will win or lose each of these two games.



(a) Work out the probability that Ding will win both games.

.....
(2)

(b) Work out the probability that Ding will win exactly one of the games.

.....
(3)

(Total for Question 14 is 5 marks)

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15

$$a = \frac{v - u}{t}$$

- $v = 9.6$ correct to 1 decimal place
- $u = 3.8$ correct to 1 decimal place
- $t = 1.84$ correct to 2 decimal places

Calculate the upper bound for the value of a .
Give your answer as a decimal correct to 2 decimal places.
Show your working clearly.

.....
(Total for Question 15 is 3 marks)



16 The diagram shows the positions of three ships, A , B and C .

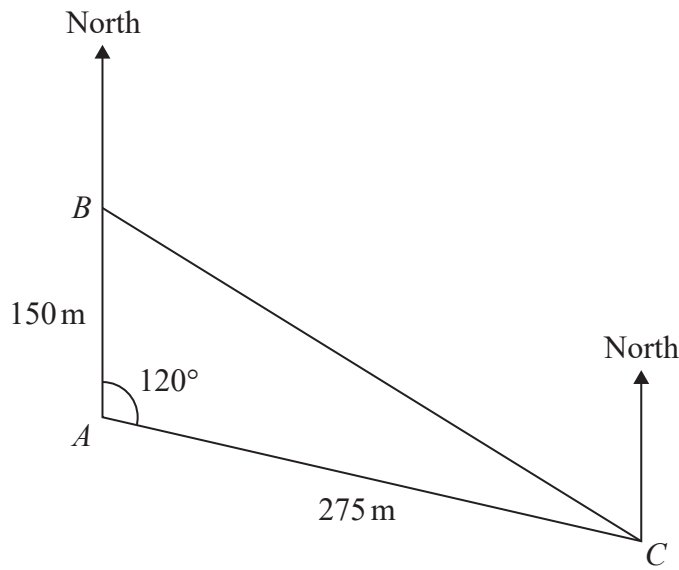


Diagram NOT accurately drawn

Ship B is due north of ship A .

The bearing of ship C from ship A is 120°

Calculate the bearing of ship C from ship B .
Give your answer correct to the nearest degree.

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.....
(Total for Question 16 is 5 marks)

